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Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

1. (Currently Amended) A system for retaining a silicon wafer during semiconductor processing and subsequently releasing it, the system comprising:

a chuck equipped with a lifting mechanism that comprises at least one extendable lifting pin driven by a solenoid, and wherein current from the solenoid is a measured current, wherein the chuck is dimensioned to receive the wafer and the lifting mechanism is adapted to release the wafer from the chuck;

a voltage source operably coupled to the chuck, and adapted to impart an electric charge to the chuck and an opposite electric charge to the wafer, producing an electrostatic attraction between the wafer and the chuck;

a sensor adapted to measure a force due to the electrostatic attraction, wherein said force is in opposition to an applied force provided by the lifting mechanism, and wherein the sensor comprises a current monitor adapted for measuring a-the current from the solenoid, wherein the measured current is proportional to the applied lifting force; and

a control system adapted to receive the measured current and neutralize the electrostatic attraction between the wafer and the chuck by reversing a polarity of the voltage source, thereby reducing the electric charge to the chuck and the opposite electric charge to the wafer until the force due to the electrostatic attraction reaches a predetermined minimum, as indicated by the sensor.

2. (Canceled)

3. (Previously Presented) The system as recited in claim 1, wherein the sensor comprises a load cell adapted to measure the force opposing the lifting mechanism and to forward the measured force to the control system.